

What is claimed is:

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1. A method for preparation of a photoresist composition comprising:

  - (a) treating a prepared resin with one or more organic solvents; and
  - (b) admixing the treated resin with a photoactive component to provide a photoresist composition.
2. The method of claim 1 wherein the resin has been isolated from a resin synthesis mixture prior to treatment with the one or more organic solvents.
3. The method of claim 1 wherein the treatment with one or more organic solvents separates low molecular weight species of the resin from higher molecular weight species of the polymer.
4. The method of claim 1 wherein treatment with the one or more organic solvents removes resin species having a Mw of about 2,000 or less.
5. The method of claim 1 wherein treatment with the one or more organic solvents removes resin species having a Mw of about 100 or less.
6. The method of claim 1 wherein treatment with the one or more organic solvents removes resin species having a Mw of about 500 or less.
7. The method of claim 1 wherein the resin is treated with methylene chloride.
8. The method of claim 1 wherein the resin is treated with one or more of a halogenated solvent; a solvent having an ester; a lactate; a hydroxy-containing solvent; an ether; or an alkane.

9. The method of claim 1 wherein the resin is treated with one or more of chloroform, ethyl acetate, anisole, ethyl lactate, methyl lactate, a glycol, methanol, ethanol, hexane, or heptane.

10. The method of claim 1 wherein the resin is washed with the one or more organic solvents.

11. The method of claim 1 wherein the resin is extracted with the one or more organic solvents.

12. The method of claim 1 wherein the resin is Soxhlet extracted with the one or more organic solvents.

13. The method of claim 1 wherein the resin is a phenolic polymer.

14. The method of claim 1 wherein the resin comprises photoacid labile groups.

15. The method of claim 1 wherein the resin binder is a phenolic polymer with pendant inert blocking groups.

16. The method of claim 1 wherein the resin comprises phenolic and alkyl acrylate photoacid labile groups.

17. A photoresist composition comprising a photoactive component and a resin, the resin obtainable by treating a prepared resin with one or more organic solvents.

18. The photoresist composition of claim 17 wherein treatment with the

organic solvent removes resin species having a Mw of about 2,000 or less.

19. The photoresist composition of claim 17 wherein treatment with the organic solvent removes resin species having a Mw of about 1,000 or less.

20. The photoresist composition of claim 17 wherein one or more organic solvents is methylene chloride.

21. The photoresist composition of claim 17 wherein the resin is washed with the one or more organic solvents

22. The photoresist composition of claim 17 wherein the resin is extracted with one or more organic solvents.

23. A substrate having coated thereon a photoresist composition of claim 17.

24. A substrate of claim 23 wherein the photoresist composition is coated on a microelectronic wafer substrate.

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